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Note on the approaching Reappearance of Brorsen's Comet of Short Period. By J. R. Hind, Esq. F.R.S.

The last return to perihelion of the comet discovered by M. Brorsen, at Kiel on 1846, February 26, was very closely predicted through the able computation of Professor Bruhns, his assigned epoch appearing to have been only one hour in error. It is clear there can be no considerable amount of perturbation during the present revolution. At the last perihelion passage, 1868, April 18·4, the comet's distance from *Jupiter* was 5·29, and would increase until near the aphelion passage, when it was about 10·34, after this it would diminish until about the time indicated by Professor Bruhns' orbit of 1868 for next perihelion, or 1873, October 11·0, when the distance from *Jupiter* is 5·71. As regards *Saturn*, the perturbations may be nearly as large as they can ever be from this planet's attraction while the comet retains its present orbit, but the following distances show that his influence will not be material.

1870, March 31	Comet from Saturn	5·569
June 29	,,	5·475
Sept. 27	,,	5·426
Dec. 26	,,	5·417
1871, March 26	,,	5·452

The computation of an ephemeris for the present year is announced to have been again undertaken by Professor Bruhns; the following rough places, obtained on the assumption that the perihelion passage occurs 1873, October 11·0, may perhaps possess interest in anticipation of the publication of his accurate results, and considering the small amount of perturbation during the actual revolution, should approximately indicate the comet's track in the heavens. It will be seen that the discovery should be soonest and most readily affected in the Southern observatories.

Co-ordinate Constants for Apparent Equinox, Oct. 11.

$$x = [0{\cdot}27977] \sin (E + 221^\circ\ 42'{\cdot}5) + 1{\cdot}02392$$
$$y = [0{\cdot}42166] \sin (E + 113\ 17{\cdot}1) - 1{\cdot}95988$$
$$z = [0{\cdot}19247] \sin (E + 71\ 30{\cdot}3) - 1{\cdot}19372$$

0h G.M.T.	R.A. h m	N.P.D. ° ′	Δ	$\frac{1}{r^2\Delta^2}$
1873, July 23	3 49·7	100 34	1·456	0·21
28	4 8·3	99 54		
Aug. 2	4 28·3	99 9	1·310	0·32
7	4 49·7	98 20		
12	5 12·7	97 24	1·184	0·48
17	5 37·3	96 20		

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0h G.M.T.	R.A. h m	N.P.D. ° ′	Δ	$\frac{1}{r^2 \Delta^2}$
1873, Aug. 22	6 3·5	95 8	1·086	0·71
27	6 31·4	93 47		
Sept. 1	7 0·8	92 18	1·023	1·04
6	7 31·6	90 42		
11	8 3·7	89 2	1·002	1·45
16	8 36·8	87 22		
21	9 10·6	85 48	1·031	1·84
26	9 44·7	84 26		
Oct. 1	10 18·8	83 21	1·102	2·08

Sweeping Ephemerides for Tempel's Comet of Short Period. (1867 II.)

(*Communicated by Mr. Bishop.*)

This comet was discovered by M. Tempel at Marseilles on the 3rd of April, 1867, and found by several calculations to be moving in an ellipse with a period of between five and six years. Mr. Searle's orbit in *Ast. Nach.* 1659, is founded upon observations between April 12th and July 24th, and when compared with a normal place deduced from the later observations, by Mr. Julius Schmidt at Athens (August 18th, 19th, and 21st) shows differences of only + 1s·08 in R.A. and + 14″·0 in N.P.D. Mr. Searle's elements, which must therefore be very near the true ones for this apparition, are as follows:—

Perihelion Passage, 1867, May 23·7530 M.T. at Berlin.

	° ′ ″	
Longitude of Perihelion	236 2 34·3	M. Equinox 1867·0.
Longitude of Ascending Node	101 12 49·9	
Inclination	6 23 38·3	
Angle of Excentricity ..	30 30 25·3	
Log. Semi-axis Major ..	0·5014326	
Mean Daily Motion ..	627″·8535 Direct.	

Some time since Mr. Hind had remarked that in the course of the present revolution the comet near its aphelion must approach within 0·4 from the planet *Jupiter*, and it was proposed to determine as accurately as practicable the effect of this close proximity upon the time of next perihelion passage. Before this work could be commenced, it was, however, announced in the publication of the *Astronomische Gesellschaft*, that the comet would be taken in hand at the Observatory of Leipsic, and the projected calculation of perturbations in a rigorous form was consequently relin-

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